

MULTIPLE STOP GAS SPRING FOR VEHICLE CLOSURE

ABSTRACT OF THE DISCLOSURE

This invention provides a fluid spring suitable for use with vehicle closures such as liftgates. The fluid spring includes a cylinder having an inner wall. A piston mounted on a rod end portion is disposed within the cylinder defining compression and expansion chambers. The cylinder wall includes at least one groove defining a travel zone along the length of the groove. Another length of the cylinder wall adjoining the groove defines a stop zone. Under a first force, the fluid spring moves rapidly through the travel zone until it reaches the stop zone. A second force greater than the first force is needed to move the gas spring from the stop zone to the next travel zone. The stop zone corresponds to an open position of a closure such as a liftgate.

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